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DIRECTORATE OF FISHERIES,

REPORTS AND NOTICES NO. 8/84:

"PROFITABILITY STUDY OF FISH FARMING ENTERPRISES, 1982"

FOREWORD

This report presents the result of a Directorate of Fisheries study concerning profitability of fish farming enterprises in 1982. This is the first time that such a study has been carried out.

The report was prepared by Sunneve Kalstad. Erlend Gjøen was responsible for the planning and execution of the study itself.

Bergen, 14.6.1984

Hallstein Rasmussen

Gunnar Nybø

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1. INTRODUCTION.

In the spring of 1982 the Directorate of Fisheries decided to undertake a profitability study regarding fish farming. Authority for collecting the necessary data from the owners is provided in legislation dated the 10 May 1981 regarding construction of facilities for hatching and breeding of fish and shellfish and an Order in Council dated the 10 January 1975.

The immediate responsibility for the study was delegated to the Office of Business Economy Studies, which, since its inception in 1976, has been responsible for the collection and analysis of data used in statistics regarding fish breeding. The statistics are issued annually by the National Bureau of Statistics. A considerable amount of the data used in this study were obtained from these statistics.

A proposed plan for collection of data regarding profitability was available on 5 November 1982. This proposal was discussed with the Norwegian Fishbreeders Association, the Fishbreeders Marketing Association, with fishbreeding consultants in most counties and with individual breeders in Hordaland. These discussions took place during January and February of 1983. At the end of that period, reporting forms for financial data and guidelines were sent to the 120 selected fishbreeding enterprises. The collection of data was completed in November 1983. Financial and other data had then been received from nearly all enterprises. Financial information from 106 enterprises has been included in the study. Fourteen enterprises were omitted for various reasons. The main reason was that some enterprises were operated in conjunction with other activities and

it was therefore difficult to separate the financial information which only concerned fish farming activities. Some enterprises were omitted due to inadequate financial reporting, this in spite of efforts to get them to report the missing information. Three enterprises refused to provide the information.

This profitability study is selective in nature and includes 106 enterprises from a national total of 304 known fish breeding enterprises of all sizes. Enterprises having a capacity of less than 500 m^3 were omitted. For those enterprises which combined hatcheries and breeding of food fish, an attempt was made to separate income and expenses for the hatchery. The study thus concentrates on the breeding of food fish. The initial sorting of data was into 23 defined groupings (five to six size groupings within each of the four geographical regions). Some of these groupings comprised all the enterprises in the region. In this report some of the groupings have been combined and we here present the results for a total of 17 groups of enterprises.

The various measures and expressions used in this study are defined and explained in chapter 3. In addition to earnings potential; the most important measure used by the Budget Committee in its study regarding profitability of fishing vessels, some other measures have been used, such as total profitability, margin, production per m^3, etc. It should here be noted that wages have been excluded from this study. This is because very many of these enterprises are family businesses, which makes it difficult to differentiate between capital investment and investment in the form of labour.

The reporting forms are presented in the attachments to this report.

2. RESULTS.

The results are presented in the form of four tables. The first table presents the information according to size, while the second presents the profitability in terms of regional distribution. The third table presents both size and region. Note that size here means the actual capacity of the facilities expressed in m^3.

The fourth table presents the earnings potential per manyear for all enterprises, sorted by size.

2.1 National results.

Table 1 shows that the average earnings potential per manyear of all enterprises was kr.206 955 in 1982. If this is compared to the earnings potential in other sectors of the fishing industry, the conclusion must be that the earnings potential of fish farming is very good throughout. Various studies of the fishing industry have been carried out by several organizations, but earnings potential is usually not included in the reports. However, a comparison with other reports shows that the profitability of other fishing industry sectors is far less than that of fish farming. The Budget Committee has calculated an average earnings potential of kr.97 341 for all-year fishing vessels of over 13 m length in 1982, while the equivalent figure for vessels of 8-13 m was kr.52 567. Although neither earnings potential nor manyear are clearly defined in the various studies, the difference is nonetheless quite clear.

A figure of 200 000 kr in earnings potential per manyear indicates very good profitability. However, it must be mentioned that there are large variations from one facility to another. Thus, nine of the 106 enterprises had a negative earnings potential. However, over 70% of the enterprises recorded over 100 000 kr in earnings potential per manyear and almost half recorded over 200 000 kr. Given the large methodical selection of enterprises, there is no doubt that the majority of the enterprises possess very good profitability.

The information in the following is based on the data in Table 1 and represents a more detailed analysis of profitability in the fish breeding industry.

Most of the economic values increase with increasing production volume up to the largest size grouping. The size groupings 5000 - 7000 m^3 and 7000 - 15 000 m^3, each have an earnings potential per manyear which is above the national average. The three other groupings are all below the national average. Most surprising is that the enterprises of over 15 000 m^3 have the lowest earnings potential per manyear. Even if one of the enterprises had a negative earnings potential, it should not reduce the average very much. As well, the selected enterprises represent 75% of the total, so the result should be very representative. Nonetheless, there are other factors which have greater influence on the earnings potential than the size of the facilities. This has been shown by a regression analysis.

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Stock turnover in the largest facilities is small in relation to the production earnings. The reason is that these are well established

facilities. Smaller facilities with larger stock turnover tend to build up their facilities.

With respect to the average number of manyears carried out, there is a major difference between, on the one hand, those above 15 000 m^3 and, on the other, those in the 5000 - 7000 m^3 range. The volume of fish raised also differs greatly between these two groups. However, the difference in production between these two groupings is not large, because utilization of fish raised (production per m^3) of the larger group is much poorer. This may be explained by the large facilities utilizing the feed less effectively, since relatively more of the feed will sink to the bottom. The large facilities also record more wastage than the grouping of the second largest facilities, but less wastage than the three other groupings of small facilities.

Another reason for the relatively poor earnings potential per manyear of the large facilities may be that they have proportionally more labour than the smaller facilities. They often use permanently employed labour and it may be difficult to fully utilize this labour force throughout the year. As well, in the smaller facilities family members often help out when necessary.

The largest facilities also have proportionally more trout than salmon, when compared with the smaller facilities. Further, it is evident that those who produce only salmon have a better average earnings potential per manyear than those who produce only trout.

The type of company also influenced the earnings potential. Private companies on the average have better earnings potential than public

companies. And it is evident that facilities of over 15 000 m^3 comprise more public companies than do the companies in the range from 7000 - 15 000 m^3.

All the factors mentioned above may reduce the margin and also explain why the expected advantage from economy of scale is not evident. The reduced margin leads to a smaller rate of contribution, lower total profitability and interest ratio. However, it is not surprising that the interest ratio is still relatively good because the largest facilities have a relatively large percentage of owner equity, comparatively low interest costs and a particularly good liquidity ratio. Page 8

The enterprises in the range 7000 - 15 000 m^3 have comparatively low fixed operating costs and variable costs in relation to the production earnings. Thus, the earnings potential for this group is relatively high. This group also shows better utilization of the total capital invested. The profitability of this group is particularly high (over 25%).

The effect of the owners on labour can be seen in a comparison between Total profitability I and Total profitability II; not unexpectedly, there is a direct relationship between the size of the facility and the effect of the owners own labour.

The enterprises in the 3000 - 5000 m^3 range, as well as those in the 5000 - 7000 m^3 range have higher interest costs in relation to the production earnings. This is related to the poor liquidity ratio of these facilities, that is, the facilities have very little short term liquidity in relation to long term debt. As well, the enterprises in the 3000 - 5000 m^3 range have a low owner equity percentage which causes

a high debt ratio. These enterprises are capital intensive and more mechanized than the enterprises in the 0 - 3000 m^3 range, which have lower capital costs. In short, these facilities may be over-capitalized in relation to their earnings potential.

2.2 Geographical differences

The Sogn and Fjordane/Hordaland region has the highest average earnings potential per manyear when all groups are considered. None of the enterprises in the region is particularly outstanding, either positively or negatively. The participation in the study from this region was good so the result should be representative.

However, it can be seen that the enterprises in the region have comparatively fewer manyears in relation to the size of the facilities. In other words, they may use their labour more efficiently.

The Rogaland and Skagerrakkysten region has the lowest earnings potential per manyear. This in spite of the fact that in this region there is one enterprise with a particularly high earnings potential. Some enterprises in the region have a negative earnings potential per manyear. Generally the earnings potential is lower than in the other regions. As well, the enterprises are generally smaller than in the other regions.

The enterprises in the Rogaland and Skagerrakkysten region generally have less stock turnover in all sizes of facilities when compared with the other regions. The reason may be that these enterprises are well established and are fully utilizing the licenced volume. There are some indications that a few enterprises operated at a higher than licenced

volume and that this has increased the average of fish raised. No licences have been issued in this region since 1980. This means that the average age of these facilities is higher than in other regions. Wastage is also higher in this region. It is probable that the high sea water temperatures, which sometimes occur during the summer in this region, may be part of the reason for this, since high sea water temperatures lead to a lack of oxygen.

The enterprises in the 0 - 3000 m^3 range in the Rogaland/Skagerrakkyst region recorded especially low production earnings in comparison with similar size enterprises in other regions. Most of the income is spent on variable costs and fixed operating costs, so that the earnings potential is particularly low. Margin, total profitability and interest ratio are negative. One operation was unprofitable and reduced the average. This, to a major extent, may explain the negative contribution rate. There are relatively few manyears and the group shows a large owner equity percentage with a small investment for facilities per kilogram of fish produced and per manyear. All this may indicate that these enterprises, in come cases, have been operated in conjunction with other business activities.

Enterprises of 5000 m^3 and above, in the Rogaland/Skagerrakkyst region, recorded the significantly largest earnings potential per manyear. One of the facilities is particularly profitable and this raises the average.

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The enterprises in the Nord and Sor Trondelag, More and Romsdal region have a relatively poor earnings potential per manyear, in particular the

enterprises in the 3000 - 5000 m^3 range. They have low production per m^3, low total profitability, large fixed operating costs and variable costs, in relation to production income. The analysis of the national results explains to some extent why this is so.

In the Nord and Sor Trondelag, More and Romsdal region, the enterprises in the 0 - 3000 m^3 range have many of the same problems as the enterprises in the 3000 - 5000 m^3 range. The reason for this is that these facilities have negative earnings potentials as well as negative owner equity. This reduces the average significantly. In other regions, facilities in the 0 - 3000 m^3 range usually have a high owner equity percentage, probably because most of these enterprises were initially of small scale with no need for large loans. They are also more labour intensive than the larger enterprises. The latter is particularly true in the northern-most regions where the enterprises recorded as many manyears as the next grouping with larger facilities.

The operations in Finnmark, Troms and Nordland recorded a slightly larger stock turnover than the other regions. Probably, this is because the facilities are still being expanded, and also because the northern-most operations have previously had difficulties in obtaining sufficient young fish. Many of the facilities in this region were licenced in 1980, and therefore many are still being expanded.

Enterprises in the 3000 - 5000 m^3 range in all regions recorded very low average calculated interest on owner equity, in relation to production income. This is related to the low owner equity percentage which leads to large debts. This can also be seen in the proportion of debt interest

in relation to the production income. The reason, of course, is that many facilities in this group have taken on large debts in order to finance operations and investment. As well, many of the enterprises in this group recorded large short term debts with high interest costs.

In fact, in some enterprises most of the debt is short term. This may mean that capital investments have been financed beyond the usual line of credit, by more expensive, short term debts. This tendency is most apparent among the enterprises in the 3000 - 5000 m^3 range in the northern part of the region. This is also the grouping with the lowest calculated interest rate on owner equity, the highest interest on debt, etc. Page 11

The enterprises in the 0 - 3000 m^3 range in the northern-most region have greater earnings potential than similar size enterprises in the other regions. The reason for this is that they have a larger volume of fish raised and larger production per m^3. This leads to greater production income and a high margin. Similarly, the average age of these enterprises is less, which means that the facilities are of better quality and that maintenance expenses are less.

Fixed operating costs are therefore lower, but depreciation is greater. Although the capital investment costs per manyear are relatively high, this does not mean that these enterprises are particularly capital intensive, instead it related to the more recent construction of these facilities.

Enterprises in the 3000 - 5000 m^3 range in all regions have relatively a high earnings potential in relation to production income. This is explained by the high debt interests costs and large variable costs.

The high variable costs in relation to production income is caused by the higher than average wastage when one compares these enterprises with the smaller ones.

3. DEFINITIONS.

This chapter provides the definitions for terms and measures used in this study. The figures in Table 1 and 2 correspond to the figures of the definitions in the following.

2. Stock turnover: Page 12

Stock turnover is the difference between the stock of live fish as of 31.12.1982 and the supply of live fish as of 31.12.1983, valued at 70% of its selling price, which is an estimate of the cost price, that is the purchase price for young fish, plus the feed costs, etc.

3. Production earnings:

The sum of sales and stock turnover.

4. Variable costs:

Includes feed costs, purchase of young fish and expenses relating to sales.

5. Fixed operating costs:

Includes maintenance, electricity, rent, office equipment, etc.

6. Interest on debt:

Debt directly related to the facilities and the operations.

7. Depreciation:

This is essentially depreciation on the basis of replacement cost, however, it is corrected for the cost of financing. One enterprise had no financing but only owner equity. In this case the depreciation was to obtain a return on owner equity. We have therefore chosen the following principle: owner equity in the facilities is depreciated linearly on the basis of replacement costs. The debt part (outside capital) is written off linearly on the basis of historical cost price (construction cost/purchase cost plus latter expenses). This is basically the same depreciation method which has been used by the Budget Committee since 1983 in all its profitability studies regarding all-year fishing vessels. The Budget Committee used bookkeeping depreciation for vessels and equipment when the actual cost was not known. Naturally, the fish farming enterprises which are much younger than the fishing vessels have records of historical costs.

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8. Calculated interest on owner equity:

A report from the Budget Committee shows that double counting results if replacement value is used and if one simultaneously uses nominal interest of security as a basis for determining calculated interest on owner equity. With respect to the replacement value principle, it appears best to use real interest calculated as the difference between nominal interest (which was used previously) and the inflation rate for the relevant year. This real interest for the 1982 study is 2.0% and has been applied in this study. (Nominal interest of 5% on treasury bonds, 1961,

series II was 13.2% and the inflation rate for 1982 was 11.2%. The inflation rate used was obtained from the consumer price index).

9. Total costs:

All costs except labour costs and employer payments to social security.

10. Earnings potential:

An expression of how much the operation actually could pay to the labour input factor, after other operational and variable costs have been covered, in a manner which is usually considered reasonable in questions of business economy. It is defined as the total production income minus total costs including depreciation and interest on debt and calculated interest on owner equity, but exclusive of labour costs and employer payments to social security.

11. Manyear: Page 14

The same measure as that used by the Budget Committee; 1975 hours, is used here.

12. Earnings potential per manyear:

The expressions of total earnings potential, number of manyears and earnings potential per manyear are all calculated independent of each other as an arithmetic mean of the figures for the individual enterprises. It is therefore not possible to divide the total earnings potential with number of manyears and from that obtain earnings potential per manyear in Tables 1 and 2.

13. Owner equity percentage:

$$\frac{\text{Owner equity} + 50\% \text{ of the return on restricted securities} \times 100}{\text{Total capital}}$$

14. Average investment in fixed assets:

Investment in fixed assets here means the value of the production facilities on the basis of replacement cost (See also item 7 above), but depreciated over lifetime.

Example:

Facilities with a lifetime of 5 years, linearly depreciated by 20% a year:

Purchased:		Replacement value:	
1980	70 000	1983:	100 000
- Depreciation over 3 years	42 000	Linear depreciation over 3 years:	60 000
Book value	28 000	Capital investment:	40 000

15. Fixed assets per manyear:

This expression which is shown in the example above is affected by the age of the facility, so it is not possible to directly draw the conclusion that the enterprises are capital intensive even when this measure is high.

18. Production per m^3:

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Production per volume of constructed breeding facilities. "Constructed" (volume) here means the volume which is actually in use for the production of food fish (actual utilization).

20. Utilization of licence:

Average utilization of assigned licence volume.

21. Utilization in region:

The average utilization in a region of assigned licence volumes when all enterprises are included and including those enterprises which were not part of this study. The information for this item has been obtained from the annual statistics regarding breeding operations.

22. Total profitability I:

An expression for return on total capital investment in the enterprise.

Definition:

$$\frac{\text{Total for extraordinary entries} + \text{finance costs} \times 100\%}{\text{Total capital}}$$

Extraordinary entries: income and expenses which are not directly related to the production of food fish. Examples; gains or loses from sales of operating equipment, gifts, compensation, etc.

Financing costs: interest on debt.

We would have preferred to have used average total capital as denominator but it was felt to be excessive to ask the respondents for the balance of the previous year. We have therefore used total capital as it emerged in the balance. Total profitability I only includes wages actually paid.

23. Total profitability II:

As in total profitability I, with the exception that this includes a calculated cost of owner input which he or his family may have carried out without wages.

24. Liquidity ratio:

An expression of the amount of short term liquid assets in relation to short term debt. It may be considered that the stock of live fish should have been included, but we feel that the slaughter of fish when there is a crisis of liquidity is an excessive solution in the short term. We have therefore omitted live fish in the estimation of liquidity.

Definition:

$$\frac{\text{Liquid assets} + \text{investments} + \text{accounts receivable}}{\text{Short term debt}}$$

Investment: investments in shares, bonds, etc.

25. Interest ratio I:

The relationship between financial result and interest costs.

Definition:

$$\frac{\text{Interest costs} + \text{results from extraordinary items} \times 100\%}{\text{Interest costs}}$$

This only includes wages actually paid.

26. Interest ratio II:

As for interest ratio I, but also includes an estimated cost for the work done by the owner and his family, with no wages.

27. Margin:

What remains for the coverage of fixed costs and profit when the variable costs are deducted from production income. Note: only feed, young fish and sales expenses are included in the variable costs.

28. Contribution rate:

The relationship between margin and production income.

TABLE 1. OPERATING RESULTS FOR FISH FARMING ENTERPRISES. NATIONAL AVERAGES.

Utilized breeding volume		0 - 3000 m^3	3000 - 5000 m^3	5000 - 7000 m^3	7000 - 15 000 m^3	15 000 m^3	All enterprises
1. Sales	kr	547 754	1 154 587	1 852 969	3 464 341	6 289 347	1 871 768
2. Stock turnover	kr	103 271	269 761	477 662	693 334	781 912	377 522
3. TOTAL PRODUCTION EARNINGS	kr	651 025	1 424 348	2 330 631	4 157 675	7 071 259	2 249 290
4. Variable costs	kr	344 671	776 634	1 191 192	1 794 949	3 666 233	1 106 750
5. Fixed operating costs	kr	57 455	133 186	237 482	291 083	991 435	213 461
6. Interest on debt	kr	30 374	102 925	139 815	139 032	227 156	105 294
7. Depreciation	kr	25 498	59 080	104 675	220 000	554 000	118 629
8. Calculated interest on owner equity	kr	7 985	15 161	27 650	85 454	175 083	38 444
9. TOTAL COSTS	kr	465 983	1 086 986	1 700 814	2 530 518	5 613 907	1 582 578
10. EARNINGS POTENTIAL	kr	185 042	337 362	629 817	1 627 157	1 457 352	666 712
11. Manyear		1.17	2.10	3.20	5.20	11.20	3.19
12. Earnings potential per manyear	kr	129 747	177 321	254 578	330 950	129 195	206 955
13. Owner equity percentage		43.6%	38.1%	46.7%	59.4%	72.9%	47.28%
14. Average invest./fix.assets	kr	167 962	380 832	484 641	1 653 930	3 460 983	768 059
15. Fixed assets per manyear	kr	125 662	178 135	215 662	311 205	286 879	203 593
16. Fixed assets per kg of fish produced	kr	6.98	8.99	10.89	12.38	13.31	9.73
17. Production per manyear	kg	24 192	25 681	32 130	26 779	20 516	26 448
18. Production per m^3	kg	11.57	14.44	14.48	15.89	7.69	13.59
19. Volume of fish raised	m^3	1 999	3 550	5 534	8 080	29 309	5 886
20. Utilization of licence		77.6 %	94.7 %	109.2 %	97.4 %	101.3 %	94.0 %
21. Utilization in region							
22. Total profitability I		18.0 %	19.1 %	19.4 %	27.9 %	6.5 %	19.8 %
23. Total profitability II		5.2 %	12.8 %	16.3 %	25.2 %	6.5 %	13.5 %
24. Liquidity ratio		1.07	0.52	0.49	0.86	2.10	0.81
25. Interest ratio I		6.56	5.06	9.11	11.98	7.09	7.68
26. Interest ratio II		1.81	3.78	8.36	11.27	7.09	5.78
27. Margin	kr	309 930	651 255	1 139 438	2 362 726	3 405 026	1 144 524
28. Contribution rate		30.2	44.8	45.4	54.5	48.2	43.17
29. Enterprises in study		27	31	20	20	6	104
30. Total enterprises		155	25	73	51	8	382

TABLE 2. RESULTS FROM FISH BREEDING ENTERPRISES BY REGION. AVERAGES FOR ALL ENTERPRISES.

		FINNMARK, TROMS AND NORDLAND	NORD AND SØR TRØNDELAG, MØRE AND ROMSDAL	SOGN AND FJORDANE, HORDALAND	ROGALAND AND SKAGERRAKKYSTEN
Earnings potential per manyear	kr	210 801	174 957	238 749	171 671
Utilized breeding volume	m^3	4 118	7 111	6 914	3 520
Number of enterprises in the study		20	34	33	17
Total number of enterprises		86	142	109	45

TABLE 3. OPERATING RESULTS FOR FISH FARMING ENTERPRISES BY REGIONAL AVERAGES.

		FINNMARK, TROMS AND NORDLAND			NORD AND SØR TRØNDELAG, MØRE AND ROMSDAL			SOJN AND FJORDANE, HORDALAND			ROGALAND AND SKAGERRAKKYSTEN		
Utilized breeding volume		0 - 3000 m^3	3000 - 5000m^3	5000 - 15000m^3	0 - 3000m^3	3000 - 5000m^3	5000 - m^3	0 - 3000 m^3	3000 - 5000m^3	5000 - m^3	0 - 3000m^3	3000 - 5000m^3	5000 - 15000m^3
Sales	kr	950086	1021546	2735282	468791	873909	2970188	598235	1303633	3702702	263150	1507246	2556484
Stock turnover	kr	176903	430876	702597	103119	166955	468541	108378	369064	875709	44243	87047	113172
TOTAL PRODUCTION EARNINGS	kr	1126989	1452422	3437879	571910	1040865	3438729	706613	1672698	4578411	307393	1594293	2669656
Variable costs	kr	542288	731870	1707897	304347	584250	1520119	358557	888135	2228356	220233	950181	1437361
Fixed operating costs	kr	54557	142569	425486	61436	125325	370620	72386	148198	367450	36350	111516	140620
Interest on debt	kr	53267	121344	165783	42983	91707	135846	27471	114806	180025	7509	80440	83019
Depreciation	kr	53400	69285	161750	24642	60111	209579	24322	52833	271300	7814	55000	118000
Calculated interest on owner equity	kr	13780	11000	35438	5000	12389	67605	10222	21222	102105	3529	15083	53250
TOTAL COSTS	kr	717292	1076068	2496354	438408	873782	2303769	492958	1225194	3149236	275435	1212220	1832250
EARNINGS POTENTIAL	kr	409697	376354	941525	133502	167083	1134960	213655	447504	1429175	31958	382073	837406
Manyear		2.04	2.24	3.58	1.27	2.14	5.32	1.06	1.93	6.00	0.6	2.19	3.76
Earnings potential per manyear	kr	184461	189238	246128	83220	81045	248411	210363	255270	245215	27754	190912	400395
Owner equity percentage		55.1 %	31.4 %	44.9 %	13.3 %	38.4 %	58.8 %	65.5 %	40.3 %	51.8 %	62.3 %	42.1 %	63.4 %
Average invest./fix.assets	kr	324600	489857	1136125	211773	348089	1477389	168933	352656	2068480	17277	345017	301400
Fixed assets per manyear	kr	164033	229076	334468	100574	155833	245326	174915	173608	306707	56433	158946	163889
Fixed assets per kg of fish produced	kr	10.41	11.36	13.53	8.12	11.09	13.61	7.07	6.31	11.40	3.44	7.10	5.38
Production per manyear	kg	16795	22967	26619	17207	17100	22903	31647	31265	30074	25862	33344	51374
Production per m^3	kg	14.80	13.43	17.24	9.54	9.83	11.03	12.52	16.30	15.86	9.78	19.72	17.03
Volume of fish raised	m^3	2290	3529	5775	1917	3678	10377	1985	3553	11890	1879	3377	6604
Utilization of licence		67.9%	78.1%	105.9%	68.8%	95.5%	95.5%	79.0%	94.7%	103.7%	90.1%	113.0%	130.7%
Utilization in region		71.8%	71.8%	71.8%	85.8%	85.8%	85.8%	97.2%	97.2%	97.2%	76.2%	76.2%	76.2%
Total profitability I		26.7%	24.0%	20.6%	11.3%	11.0%	25.6%	28.9%	21.4%	16.3%	1.1%	22.2%	21.9%
Total profitability II		8.4%	18.1%	19.7%	3.6%	6.1%	23.8%	13.7%	16.0%	14.5%	-8.6%	11.9%	11.0%
Liquidity ratio		1.27	0.12	0.50	0.47	0.80	1.23	1.24	0.56	0.99	1.35	0.48	1.11
Interest ratio I		7.26	4.20	13.91	3.34	4.49	8.59	12.86	4.54	10.20	-4.97	7.59	8.48
Interest ratio II		2.12	3.31	13.53	2.22	3.00	8.23	6.02	3.48	9.54	-10 16	5.87	6.12
Margin	kr	584701	720564	1729982	267563	456614	1918610	358778	796751	2350054	87175	644112	1232294
Contribution rate		48.3%	47.8%	51.1%	32.4%	40.6%	51.7%	50.1%	48.1%	48.9%	-10.4%	42.4%	40.9%
Enterprises in study		5	7	8	6	9	19	9	9	15	7	6	4
Total enterprises		43	26	17	22	33	42	45	29	35	25	12	8

TABLE 4. EARNINGS POTENTIAL PER MANYEAR FOR INDIVIDUAL ENTERPRISES IN THE STUDY. NATIONAL TOTAL (CROWNS).

0 - 3000 m^3	3000 - 5000 m^3	5000 - 7000 m^3	7000 - 15 000 m^3	15 000 m^3 -
-265523	-141905	-115112	-9271	-38934
-156160	1827	-112051	66561	100329
-66522	3976	7232	88582	168884
-57333	10116	103607	99624	176476
12000	13421	105818	190319	179895
23348	32856	105987	270749	188521
45245	38260	151754	278858	
79290	40553	154088	280290	
87726	42992	165308	315354	
89167	65954	169202	337513	
110190	72460	187997	352412	
110815	83642	205436	352649	
115219	85645	244323	356724	
117469	109506	259979	357871	
140770	150205	261883	369033	
144851	158631	266576	384771	
149566	168786	467306	441106	
163370	170114	557054	457837	
178981	172318	790050	529451	
199516	182067	1115079	630569	
233925	189610			
261801	195005			
282463	227817			
283971	230050			
392168	351885			
409631	409107			
422520	419352			
	424513			
	434998			
	520495			
	642522			

5. ATTACHMENTS

1. Profitability report for fish breeding, 1982.

2. Fish breeding 1982 (partly used in the profitability study).

Directorate of Fisheries
Postboks 185-186
5001 BERGEN
Phone: (05) 23 03 00

PROFITABILITY REPORT FOR FISH BREEDING, 1982

By authority of Order in Council 10 January 1975
and Legislation dated 10 May 1981.

Firm (will be entered by Directory of Fisheries)	Registry number
County/Municipality	File number

It is not necessary to compile pages 1 and 2 if the financial accounts for 1982 are attached.

ALL ENTRIES SHALL EXCLUDE VALUE ADDED TAX SINCE THIS IS TAX DEDUCTIBLE. HOWEVER, THE INVESTMENT FEE SHALL BE INCLUDED IF SUCH A FEE WAS REQUIRED.

OPERATING EXPENSES 1982

Dry feed, medicine, medicated feed and vitamins

1 - for young fish kr _____

2 - for food fish kr _____

Approximate supply of dry feed 1/ 1-82: _____kg

Approximate supply of dry feed 31/12-82: _____kg

3 Fresh feed kr _____

Approximate supply of fresh feed 1/ 1-82: ____kg

Approximate supply of fresh feed 31/12-82: ____kg

4 Ice, number of boxes kr _____

5 Total of entries 1-4 kr

Wages and social expenses, including employer's contribution

6 hatchery kr _____

7 food fish facilities kr

8	Transportation costs	kr	
9	Insurance of fish in hatchery	kr	
10	Insurance of fish in food fish facility	kr	
11	Insurance of hatchery	kr	
12	Insurance of food fish facility	kr	
13	Maintenance costs for hatchery	kr	
14	Maintenance costs for food fish facility	kr	
15	Electricity	kr	
16	Various office expenses, telephone, etc.	kr	
17	Administrative costs, accounting	kr	
18	Interest on short term debt	kr	
19	Interest on investment loan for hatchery	kr	
20	Interest on investment loan for food fish fac.	kr	
21	Total of entries 8-20		kr

Various other expenses (specify)

22		kr
23		kr
24		kr
25	TOTAL EXPENSES IN 1982	kr

BALANCE AS OF 31/12-82

Assets (Active)			Debt and owner equity (passive)			
Facilities			**Loan in State bank (enter name of bank)**			
26	Hatchery	kr	41		kr	
27	Food fish	kr	42		kr	
			43	Loan in DUF	kr	
Fish stock			44	Loans in private banks	kr	
28	Young fish	kr	45	Other loans	kr	
29	Food fish	kr	46	Total long term debt (totals of 41-45)		kr
				Distribution of long term debt (46)		
Supply of feed				Hatchery	kr	
30	Young fish	kr		Food fish facility	kr	
31	Food fish	kr	47	Bank overdraft		kr
32	Accounts receivable	kr	48	Debt to suppliers (creditors)		kr
33	Bank account	kr	49	Debt on investment feed		kr
34	Cash	kr				
Other assets (specify)			Other debts (specify)			
35		kr	50			kr
36		kr	51			kr
37		kr	52	Conditional tax free bonds		kr
38		kr	53	Owner equity (including reserve funds, etc.)		kr
39		kr				
	Total assets 40	kr		Total capital 40		kr

INVESTMENT IN FACILITIES AND EQUIPMENT

	Facilities/ Equipment		Number	Purchased		Depreciation in 1982	Book value 31/12-82	Leave blank
				Year	Price			
Hatchery	Hatch tank	54						
	Spawn tank	55						
	Water treatment equipment	56						
		57						
		58						
Young fish facility	Building	59						
	Concrete basin	60						
	" "	61						
	Plastic/ fiberglass tank	62						
	"	63						
	Floats	64						
	"	65						
	Automatic feeder	66						
	"	67						
	Pump	68						
		69						
		70						

INVESTMENT IN FACILITIES AND EQUIPMENT (Continued)

	Facilities/ Equipment			Number	Purchased		Depreciation in 1982	Book value 31/12-82	Leave blank
					Year	Price			
	Building		71						
	Floats		72						
	"		73						
	"		74						
	Nets		75						
	"		76						
	Automatic feeder		77						
	"		78						
	Refrigeration		79						
	Feed mixer		80						
Food	Feed mill		81						
fish	Floating dock		82						
facility	Dock		83						
	Boat	ft	84						
	Engine	HP	85						
	Crane	tons	86						
	Truck	tons	87						
			88						
			89						
			90						
			91						
			92						

A. Was there income other than from the sale of fish in 1982? _____

If yes, what type of income: _____

Amount of this income: kr _____

B. Did you process any fish (smoking, salting, fermenting, fileting)?

If so, enter the amount of sales: kr _____

C. Insurance value of investment in hatchery in 1982: kr _____

Insurance value of investment in food fish in 1982: kr _____

D. Labour input (in actual breeding operation)

	Owner + family				Hired help				All persons
	Persons	Weeks	Hours per day	Total hours	Persons	Weeks	Hours per day	Total hours	All persons
Permanent									
Seasonal help									
								Total hours	

E. Distribution of total hours: hatchery: _____

Food fish: _____

F. What was your average wastage during the last 3 years? Salmon _____%

Trout _____%

G. Proportion of feed; dry feed: _____

fresh feed: _____

H. Average weight at the end of the year

- of salmon started in 1982: ___kg
  feed 1982: ___kg
- of trout started in:
  autumn 1982: _____kg
  spring 1982: _____kg
  feed 1982: _____kg

Other information:		
Name	Address	Telephone
	For firm. Date and signature	

Directorate of Fisheries
Postboks 185-186
5001 Bergen
Phone: (05) 23 03 00

F I S H B R E D I N G 1 9 8 2

Authority: Order in Council, 10 January 1985
and Legislation dated 15 May 1981

Firma (fylles ut av Fiskeridirektoratet) Firm (to be entered by the Directorate of Fisheries)			Registreringsmerke Registry number
Fylke/kommune (SSB) County/Municipality			Løpenr. File number
Activity in 1982 and ownership	01	Matfiskproduksjon? 1 ☐ Ja 2 ☐ Nei Production of food fish?	1-yes 2-no
	02	Production of spawn and/or young fish for food fish production.	1-yes 2-no
	03	Production of spawn and/or young fish for stocking of lakes and rivers	1-yes 2-no
	04	Ownership 1-Limited company, 2-co-operative, 3-private, 4-partnership, 5-other	
Working hours in 1982	05	Total hours in 1982 Samlet arbeidsinnsats i 1982	Timeverk Hours
	06	Herav utført av leid hjelp By employees	

CAPACITY OF FACILITIES IN 1982

Hatchery	07	Maximum capacity per hatch Maksimal kapasitet pr. klekkeomgang			Liter rogn Liters of roe	
Facilities for young fish - capacity used	08	Environment; 1-fresh water, 2-salt water, 3-both fresh and salt water				
	09	Earth dams Jorddammer		Antall Number	Total areal m^2 Total area m^2	Total volum m^3 Total volume m^3
	10	Concrete basins Betongdammer				
	11	Floats Flytemærer				
	12	Plastic/fiberglass tanks Plast-/glassfiberkar				
	13	Other production facilities Andre typer produksjonsenheter				
	14	If any of the above (09-13) were used for food fish indicate area and volume for these.				
Food fish facilities capacity used	15	Jorddammer Earth dams				
	16	Flytemærer Floats	Ferskvann Fresh water			
	17		Saltvann Salt water			
	18	Innhegninger Enclosures				
	19	Avstengninger Cut-offs				
	20	Other production facilities	Ferskvann Fresh water			
	21		Saltvann Salt water			

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HATCHERY PRODUCTION IN 1982

Own stock	22	Did you have own stock on 31/12-82? 1-yes 2-no		
Production in hatchery	23	Was hatchery in production in 1982? 1-yes 2-no		
	24	Salmon / Laks	Innlagt nybefruktet rogn Liter: Introduced fertilized roe;	Nyklekte 1000 stk: Newly hatched spawn. 1000 each
	25	Rainbow trout / Regnbueørret	Litres	
	26	Andre fiskeslag (oppgi hvilke): Other fish species (indicate which):		
	27			
Produced from young fish facility	28	Did you produce young fish in 1982? 1-yes 2-no		
	29	Salmon hatched before 1981. / Laksesmolt klekket før 1981		1000 each
	30	Salmon hatched in 1981 / Laksesmolt klekket i 1981		
	31	Rainbow trout hatched before 1982 / Regnbueørret klekket før 1982		
	32	Rainbow trout hatched in 1982 / Regnbueørret klekket i 1982		
	33	Andre fiskeslag (oppgi hvilke): Other species (indicate which):		
	34			

SALES FROM OWN HATCHERY IN 1982

			Purchase value 1000 kr	Sales value 1000 kr
Roe	35	Salmon / Laks		
	36	Rainbow trout / Regnbueørret		
	37	Other species / Andre fiskeslag		
Roe in newly hatched spawn	38	Salmon / Laks	1000 stk. 1000 each	1000 stk. 1000 each
	39	Rainbow trout / Regnbueørret		
	40	Other species / Andre fiskeslag		
Young fish	41	Lakseunger (ikke smoltifisert)	young salmon	
	42	Laksesmolt klekket før 1981	salmon hatched before 1981	
	43	Laksesmolt klekket i 1981	salmon hatched in 1981	
	44	Regnbueørret klekket før 1982	Rainbow trout hatched before 1982	
	45	Regnbueørret klekket i 1982	Rainbow trout hatched in 1982	
	46	Andre fiskeslag (oppgi hvilke):	Other species (indicate which):	
	47			

Notes:

SLAUGHTER AND SALES OF FOOD FISH IN 1982

			kilogram weight		
			Salmon	Rainbow trout	Other
Slaughter, sale and inventory of slaughtered fish (fresh/ frozen)	48	Slaughtered fish in inventory 1/1-82 Slaktet fisk på lager 1. januar 1982			
	49	Fish slaughtered in 1982 Fisk tatt opp til slakt i 1982			
	50	Fish sold in 1982 (unprocessed) Fisk solgt i 1982 (uforedlet)			
	51	Fish processed on the premises Gått til foredling i eget anlegg			
	52	Miscellaneous (own consumption, wastage) Diverse (egen husholdning, svinn)			
	53	Slaughtered fish in inventory on 31/12-82 (unprocessed) Slaktet fisk på lager 31. desember 1982 (uforedlet)			

			Fresh or frozen fish sold in 1982 (unprocessed)		Own processing
Amount and value of food fish	57	Total salmon Laks i alt	Weight in kilograms	Value (1000 kr)	Weight in kilograms
	61	Total rainbow trout Regnbueørret i alt			
	62	Andre fiskeslag (oppgi hvilke): Other species (indicate which):			
	63				
	64				

			Weight in kilograms		
			Salmon	Rainbow trout	Other
Fresh or frozen food fish sold in 1982, by purchaser	65	Direct export Direkte eksport			
	66	Wholesalers Salgsorganisasjoner, grossister			
	67	Retailers Detaljister			
	68	Hotels, restaurants Hoteller, restauranter			
	69	Direct to consumers Direkte til forbruker			
	70	Others Til andre			
	71	Total I alt			

INVENTORY

Hatchery, inventory as of 31/12-82	72	Laks Salmon	Klekket før 1982 Hatched before 1982	1000 stk. 1000 each
	73		Klekket i 1982 Hatched in 1982	
	74	Regnbueørret Rainbow trout		
	75	Andre fiskeslag (oppgi hvilke): Other species (indicate which):		
	76			
	77			

				Number of fish			
				Inventory 1/1-1982	Addition in 1982	Slaughtered/ wastage 1982	Inventory 31/12-1982
Food fish	78	Laks Salmon	Put in before 1982 Utsatt før 1982				
	79		Put in, 1982 Utsatt i 1982	—			
	80	Regnbueørret Rainbow trout	Put in before 1982 Utsatt før 1982		—		
	81		Put in spring, 1982 Utsatt våren 1982	—			
	82		Put in autumn 1982 Utsatt høsten 1982	—			
	83	Andre fiskeslag utsatt før 1982: Other species put in before 1982			—		
	84				—		
	85				—		
	86	Andre fiskeslag utsatt i 1982: Other species put in , 1982		—			
	87			—			
	88			—			

Merknader:

Notes:

Eiers/oppdretters navn: Owner/manager name	Adresse: Address	Telefon: Telephone
Skjema utfylt av: Reported by	Adresse: Address	Telefon Telephone

For firma. Dato og underskrift: For firm. Date and signature:	For Fiskeridirektoratet. Dato og underskrift: For Directorate of Fisheries. Date and signature:

Secretary of State / Secrétariat d'État

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